



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/480,584

01/10/2000

Stephen Edward Hettinger

9D-HR-19167-HETTINGER

4498

7590

09/01/2006

John S Beulick
Armstrong Teasdale LLP
One Metropolitan Square
Suite 2600
St. Louis, MO 63102

EXAMINER

TAMAI, KARL I

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/480,584	Applicant(s) HETTINGER, STEPHEN EDWARD	
	Examiner Tamai I.E. Karl	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-14, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 7, 15, 16 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The rejection to Claims 1-3 under 35 U.S.C. 112, first paragraph, is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1, 3, 4, 6, 8, 10-12, 14, and 17 are rejected under 35 U.S.C. 103(a) as unpatentable over Cunningham (US 3885176) and Braun (US 6384501). Cunningham teaches a shield 62 having a cylindrical shroud encompassing a portion of the bearing housing 64 (inherently part of the motor housing), and a hub that obstructs the opening in the shroud to prevent dirt from getting into the motor. Cunningham teaches the opening and the hood both are positioned along the shaft axis. Cunningham teaches the seals 61 engaging the shaft sufficiently tightly to rotate therewith. Cunningham teaches the hub and shroud are integrally molded, and adapted to flex around the shaft. Cunningham seal 62 encompassing the endcap 64 of the housing. Cunningham teaches every aspect of the invention except the hub including a spring member coupled to an opening extension on the hub, and the spring outwardly displaced when the shaft is inserted in the hub. Braun teaches the hub being frustoconical at the

Art Unit: 2834

opening 1e. Braun teaches an opening extension 3 on the hub to provide localized force during press fitting of the shaft by a spring ring 2. Braun teaches the spring being displaced outward during insertion of the shaft (see figure 2), where the ring is coupled to the groove/expansion slot by the clamping force of the ring. Braun teaches the frustoconical portion 1e for the insertion of the shaft. Braun teaches that only a small force is required during installation with no bending stress transmitted through the hub to provide reduced manufacturing costs (see col. 4, lines 10-20). It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the dust shield of Cunningham with an spring and slots on the hub to properly position the hub and to reduce manufacturing costs and assembling stress as taught by Braun.

4. Claims 2, 5, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham and Braun, in further view of Otto (US 4287662). Cunningham and Braun teach every aspect of the invention except opening being tapered with the output shaft stretching around the shaft to form an interference fit. Otto teaches a shield having a hub 45 with tapers in a frustoconical cross sections towards the opening to grippingly engages the shaft 33. Otto teaches the sleeve gripping the shaft (inherently adapted to flex/stretch around the shaft. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Cunningham and Braun with the hub tapered and stretching around the shaft to grippingly engage the shaft as taught by Otto.

Allowable Subject Matter

5. Claims 7, 15, 16, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed 6/14/2006 have been fully considered but they are moot in view of the new ground of rejection, as discussed above.

Conclusion

7. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

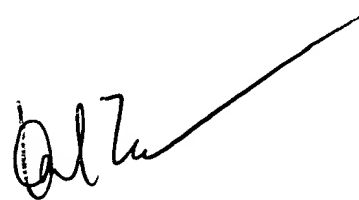
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (571) 272 - 2036.

The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai
PRIMARY PATENT EXAMINER
August 28, 2006



KARL TAMAI
PRIMARY EXAMINER